



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,293	09/23/1999	MASAHIRO HAYAMA	Q55778	4480

7590 08/23/2002

SUGHRUE MION ZINN MACPEAK & SEAS  
2100 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 200373202

[REDACTED] EXAMINER

ANDERSON, MATTHEW D

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 08/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. 09/401,293	Applicant(s) Hayama
Examiner Matthew D. Anderson	Group Art Unit 2186

Responsive to communication(s) filed on 9/23/99

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claim

- Claim(s) 1-7 is/are pending in the application.
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 1-7 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claims \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All  Some\*  None of the CERTIFIED copies of the priority documents have been received.
- received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \*Certified copies not received: \_\_\_\_\_
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s). 4
- Interview Summary, PTO-413
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2186

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a translation of the foreign application should be submitted under 37 CFR 1.55 in reply to this action.

### *Information Disclosure Statement*

3. The information disclosure statement filed 10/26/99 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.
4. Documents 1-4 have only been considered only in light of what is disclosed by the translated Japanese Office Action submitted with the IDS. Documents 5-8 were only cited in the Japanese Office Action and have not been considered because no statement of relevance has been made. Documents 9-13 have been considered only in light of what is disclosed by the applicant

Art Unit: 2186

when saying that they “disclose a control method for storing a data into a flash memory using flag which indicate status of flash memory.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation concerning determining whether the stages are good or bad is indefinite. What makes a stage “good” or “bad”?

***Allowable Subject Matter***

7. Claims 4 and 6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest a flash state notification means for comparing, when power supply is made available after the rewriting is completed, values read out from the flag areas with expected values for said flag areas stored in advance and notifying the controller of results of the comparison.

Art Unit: 2186

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 3, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi *et al.* (US Patent # 6,160,738).

12. With respect to claims 1, 3, and 7, Atsumi *et al.* disclose:

a rewrite program area for storing a program to rewrite memory, as shown by the refresh block of figure 8(A);

a controller for forming a plurality of flags in the memory when the rewriting program is written into memory, and performing determination of completion of a plurality of stages of rewriting, by teaching in column 14, line 64 through column 15, line 9, that the semiconductor memory device according to claim 42, wherein said refresh control circuit sequentially reads the refresh status data of said flag cells such that (1) when said refresh control circuit reads the

Art Unit: 2186

refresh status data of one of said flag cells having the first logical level, said refresh control circuit reads the refresh status data of the next flag cell in said flag cell sequence and (2) when said refresh control circuit reads the refresh status data of one of said flag cells having the second logical level, said refresh control circuit refreshes the contents of the memory cells of the corresponding refresh block and writes refresh status data of the first logical level to said one of said first flag cells;

13. The difference between Atsumi *et al.* and the claims is the claims recite the memory being a flash memory. However, the specific use of a flash memory as a non-volatile storage device over another non-volatile memory device, does not have a disclosed purpose nor are disclosed to overcome any deficiencies in the prior art. As such, the non-volatile memory may have been embodied in a number of manners, such as an EEPROM, EPROM, PROM, or flash. Accordingly, it would have been an obvious matter of design choice to utilize the NVM of Atsumi *et al.*, as disclosed supra, since applicant has not disclosed that a flash memory, as opposed to other non-volatile memory devices, overcomes a deficiency in the prior art or is for any stated purpose.

14. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi *et al.* and Sukegawa *et al.* (US Patent # 5,603,001).

Art Unit: 2186

15. With respect to claims 2 and 5-6, Atsumi *et al.* disclose the memory including a plurality of erasable blocks that include a data area and a flag area, by showing in figure 7 and corresponding column 6, line 64 through column 7, line 15, a nonvolatile semiconductor memory, on a single chip (column 9, line 3), having a memory cell array (data area) comprised of erase blocks, and a flag cell array which correspond to the erase blocks.

16. Atsumi *et al.*, though, does not specifically disclose mapping the data areas of the plurality of block to successive addresses. Sukegawa *et al.* disclose in column 15, lines 55-60, that consecutive disk addresses are mapped in the ROM and the flash EEPROMs.

17. It would have been obvious to one of ordinary skill in the art, having the teachings of the Atsumi *et al.* and Sukegawa *et al.* before him at the time the invention was made, to modify the flash memory refreshing taught by Atsumi *et al.* to include the consecutive address mapping to flash, as taught by Sukegawa *et al.*, in order to aid in error detection and correction, as taught by Sukegawa *et al.*.

### *Conclusion*

18. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach similar flash memory systems.

Art Unit: 2186

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Anderson whose telephone number is (703) 306-5931. The examiner can normally be reached on Monday-Friday, 2nd Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (703) 305-3821. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
Matthew D. Anderson  
May 23, 2002

  
MATTHEW KIM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2